IN THE CLAIMS:

The follow claim listing replaces all previous claim listings in the application.

1   Claim 1. (currently amended) A data processing method embodied
2   in computer readable medium for addressing comprising controlling a
3   computer to address at least one predetermined element in a structured
4   document, the method comprising the steps of:
5   when the structured document having said at least one
6   predetermined element addressed by predetermined addressing information
7   is modified, inputting the structured document to analyze the
8   modification and storing an analysis result in a memory;
9   reading the analysis result from the memory; and
10   updating the addressing information according to the analyzed
11   modification so that the addressing information addresses at least one
12   corresponding element or corresponding elements in the modified
13   structured document.

1   Claim 2. (original) A data processing method according to claim
2   1, wherein the step of updating the addressing information comprises
3   updating the addressing information written in XPath.

1   Claim 3. (currently amended) A difference computation method
2   embodied in computer readable medium for computing comprising
3   controlling a computer to compute a difference between at least two
4   tree-structured data items, the method comprising: the steps of
5   a first step of reading at least two tree-structured data items
6   to be processed from memory to compare the at least two tree-structured
7   data items, creating an operation sequence, in which each operation for
8   transforming one of the tree-structured data items into the other tree-
9   structured data item is expressed as a combination of predetermined
10   operations on a component of a tree-structure, and storing the list in
11   memory; and
12   a second step of reading the operation sequences from the memory
13   and changing operations in the operation sequence that are interpreted
14   as a movement of a component into an operation of moving the component.

1   Claim 4. (original) A difference computation method according to
2   claim 3, wherein the first step comprises creating an operation
3   sequence in which each operation for transforming the tree-structured

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4   data is expressed as a combination of operations of inserting,
5   removing, or modifying a node or a subtree of a tree structure.

1   Claim 5. (currently amended) An addressing information
2   generation system embodied in computer readable medium comprising:
3   a difference computation unit for computing a difference between
4   structured documents; and
5   an addressing information generation unit for generating
6   addressing information from addressing information that addresses a
7   part of a particular structured document based on information on the
8   difference computed by the difference computation unit, the generated
9   addressing information addressing a corresponding part of the other
10   structured document.

1   Claim 6. (original) An addressing information generation system
2   according to claim 5, further comprising a document analysis unit for
3   analyzing structures of the structured documents and converting the
4   structures into tree-structured data items,
5   wherein the difference computation unit computes the difference
6   by comparing the tree-structured data items corresponding to the
7   structured documents converted by the document analysis unit.

1   Claim 7. (original) An addressing information generation system
2   according to claim 6, wherein the difference computation unit computes
3   the difference between the tree-structured data items to track a
4   component of the tree-structured data items that is moved in operations
5   for transforming one of the tree-structured data items into the other
6   tree-structured data item.

1   Claim 8. (original) An addressing information generation system
2   according to claim 5, wherein the addressing information is written in
3   XPath.

1   Claim 9. (original) An addressing information generation system
2   according to claim 8, wherein the addressing information generation
3   unit generates an XPath for the other structured document by
4   regenerating LocationSteps forming an XPath for the particular
5   structured document based on the difference between the structured
6   documents and on the XPath for the particular structured document.

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1   Claim 10. (currently amended) A program embodied in computer

2 readable medium for controlling a computer so that the computer

3 performs data processing for addressing at least one predetermined

4 element in a structured document, the program causing the computer to

5 perform:

6   first processing of, when the structured document having the

7 element addressed by predetermined addressing information is modified,

8 inputting the structured document to analyze the modification and

9 storing an analysis result in a memory; and

10   second processing of reading the analysis result from the memory

11 and updating the addressing information according to the analyzed

12 modification so that the addressing information addresses at least one

13 corresponding element in the modified structured document.

1   Claim 11. (original) A program according to claim 10,

2   wherein the first processing provided by the program comprises

3 the processing of:

4   converting an unmodified version and a modified version of the

5 structured document into tree-structured data items; and

6   computing a difference between the tree-structured data items,

7 and

8   wherein in the second processing provided by the program, the

9 program causes the computer to update the addressing information based

10 on the difference between the tree-structured data items.

1   Claim 12. (original) A program according to claim 11, wherein in

2 the processing of computing the difference provided by the program, the

3 program causes the computer to compute the difference between the tree-

4 structured data items to track a component of the tree-structured data

5 items that is moved in operations required for transformation between

6 the tree-structured data items transformed from one to the other

7 according to modification of the structured document.

1   Claim 13. (original) A program according to claim 10, wherein in

2 the second processing provided by the program, the program causes the

3 computer to update an XPath describing the addressing information by

4 regenerating LocationSteps forming the XPath based on the difference

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5   between the unmodified version and the modified version of the
6   structured document.

1   Claim 14. (currently amended) A program embodied in computer
2   readable medium for controlling a computer to compute a difference
3   between at least two tree-structured data items, the program causing
4   the computer to perform:
5   first processing of reading at least two tree-structured data
6   items to be processed from memory to compare the at least two tree-
7   structured data items, creating an operation sequence, in which each
8   operation for transforming one of the tree-structured data items into
9   the other tree-structured data item is expressed as a combination of
10 predetermined operations, on a component of a tree-structure, and
11 storing the list in memory; and
12   second processing of reading the operation sequences from the
13 memory and changing operations in the operation sequence that are
14 interpreted as a movement of. a component into an operation of moving
15 the component.

1   Claim 15. (original) A program according to claim 14, wherein in
2   the second processing provided by the program, the program causes the
3   computer to add an operation of moving a component of the tree-
4   structured data items to the operation sequences in place of a pair of
5   operations of removing and inserting. the component in the operation
6   sequences.

1   Claim 16. (original) A program according to claim 14, wherein in
2   the second processing provided by the program, the program causes the
3   computer to replace, based on a predetermined rule, an operation of
4   modifying a component of the tree-structured data items in the
5   operation sequences with a different operation that involves moving the
6   ·component.

1   Claim 17. (original) An annotation server for managing
2   annotation data made for an HTML/XML document, the annotation server
3   comprising:
4   difference computation means for computing, when the HTML/XML
5   document for which the annotation data has been made is modified, a

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6   difference between an unmodified version and a modified version of the

7   HTML/XML document; and

8   XPath update means for updating, based on difference information

9   obtained from computation by the difference computation means, an XPath

10 associating the annotation data with a part of the HTML/XML document.

1   Claim 18. (original) An article of manufacture comprising a

2   computer usable medium having computer readable program code means

3   embodied therein for causing data processing, the computer readable

4   program code means in said article of manufacture comprising computer

5   readable program code means for causing a computer to effect the steps

6   of claim 1.

1   Claim 19. (original) A program storage device readable by

2   machine, tangibly embodying a program of instructions executable by the

3   machine to perform method steps for data processing, said method steps

4   comprising the steps of claim 1.

1   Claim 20. (original) An article of manufacture comprising a

2   computer usable medium having computer readable program code means

3   embodied therein for causing difference computation, the computer

4   readable program code means in said article of manufacture comprising

5   computer readable program code means for causing a computer to effect

6   the steps of claim 3.

1   Claim 21. (original) A program storage device readable by

2   machine, tangibly embodying a program of instructions executable by the

3   machine to perform method steps for difference computation, said method

4   steps comprising the steps of claim 3.

1   Claim 22. (original) A computer program product comprising a

2   computer usable medium having computer readable program code means

3   embodied therein for causing addressing information generation, the

4   computer readable program code means in said computer program product

5   comprising computer readable program code means for causing a computer

6   to effect the functions of claim 5.

1   Claim 23. (original) A computer program product comprising a

2   computer usable medium having computer readable program code means

3   embodied therein for causing management of annotation data made for an

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4 HTML/XML document, the computer readable program code means in said

5 computer program product comprising computer readable program code

6 means for causing a computer to effect the functions of claim 17.

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